REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 1-86 are pending, of which claims 1, 18, 27, 39-42, 44-48, 50-54, 73, and 81 have been amended. The amendments to claims 1, 18, 27, 39-42, 44-48, 50-54, 73, and 81 are simply to provide clarification and/or to correct informalities noted by the Applicant, and are not to overcome prior art or any other objections.

35 U.S.C. §102 Claim Rejections

Claims 1-14, 18-24, 27-36, 39-40, 42-67, and 72-86 are rejected under 35 U.S.C. §102(a) as being anticipated by a document entitled "Windows 2000 Active Directory" by Lowe-Norris (hereinafter, "Norris") (*Office Action* p.2). Applicant respectfully traverses the rejection.

Claim 1 recites "an object having an attribute comprised of individual linked values, each linked value having conflict-resolution data". Norris does not show or disclose an object attribute which is comprised of individual linked values that each have conflict-resolution data, as recited in claim 1.

Norris describes objects which are structured as object: properties: value(s), where the values of a property can include a version number and a timestamp. The version number and timestamp are associated with a property when the property is created or modified. The Office simply states that Norris teaches conflict-resolution data (version number and timestamp) as shown in Fig. 4-1 (p.68) (*Office Action* p.3). A version number and timestamp shown in Norris

Fig. 4-1 corresponds to a particular property of an object, and a version number or timestamp is itself a value of the particular property.

Contrary to Norris, Applicant claims that each linked value of an attribute has associated conflict-resolution data. See Applicant's Fig. 4, for example. An object (314) has attributes (322) one of which is "Members" (334) that includes individual linked values (342), each linked value (342) has associated conflict-resolution data (346) (i.e., version and timestamp value data). Norris Fig. 4-1 does not show linked values of a property where the values themselves have conflict-resolution data.

Accordingly, claim 1 is allowable over Norris for at least this reason and the § 102 rejection should be withdrawn.

Claim 1 also recites that a replication conflict between a linked value of the attribute in the object and the linked value of the attribute in the replica object is resolved with the conflict-resolution data associated with the linked values. Norris does not show or disclose a replication conflict resolved with conflict-resolution data of individual linked values, as recited in claim 1. Norris specifically states that reconciliation starts by looking at the version numbers of two *properties*, and whichever *property* has the higher version number wins the conflict (*Norris* p.77, ¶3).

The Office cites to Norris p.77, 3rd paragraph for teaching "the replication conflict being resolved with the conflict-resolution data associated with the linked value" (*Office Action* p.3). However, the cited section of Norris only describes conflict resolution if an object is moved under a deleted parent. There is no

indication in Norris of a replication conflict resolved with conflict-resolution data of individual linked values, as recited in claim 1. Further, without a better indication as to the basis for the rejection, Applicant respectfully submits that the Office has not provided a *prima facie* rejection of this feature recited in claim 1.

Accordingly, claim 1 is also allowable over Norris for at least these additional reasons and the §102 rejection should be withdrawn.

Claims 2-14 are allowable by virtue of their dependency upon claim 1. Additionally, some or all of claims 2-14 are allowable over Norris for independent reasons. For example:

Claim 3 recites that "the conflict-resolution data comprises a version indicator that corresponds to a version of an individual linked value." As described above in the response to the rejection of claim 1, Norris does not show or disclose conflict-resolution data that is associated with an individual linked value. Norris only shows a version number in Fig. 4-1 (p.68) that corresponds to a particular property of an object, and further, the version number is itself a value of the particular property. Norris does not show a version indicator that corresponds to an individual linked value, as recited in claim 3. Accordingly, claim 3 is allowable over Norris and the §102 rejection should be withdrawn.

Claim 6 recites that "the conflict-resolution data comprises an update timestamp that corresponds to when an individual linked value is updated". As described above in the response to the rejection of claim 1, Norris does not show or disclose conflict-resolution data that is associated with an individual linked value. Norris only shows a timestamp in Fig. 4-1 (p.68) that corresponds to a

particular property of an object, and further, the timestamp is itself a value of the particular property. Norris does not show an update timestamp that corresponds to an individual linked value, as recited in claim 6. Accordingly, claim 6 is allowable over Norris and the §102 rejection should be withdrawn.

Claim 7 recites that "the conflict-resolution data comprises a creation indicator that corresponds to when an individual linked value is created". As described above in the response to the rejection of claim 1, Norris does not show or disclose conflict-resolution data that is associated with an individual linked value. Further, Norris Fig. 4-1 (p.68) does not show any such creation indicator as the Office contends (*Office Action* p.5). The Office merely states that Norris Fig. 4-1 teaches a creation indicator, but without a better indication as to the basis for the rejection, Applicant respectfully submits that the Office has not provided a *prima facie* rejection of claim 7. Accordingly, claim 7 is allowable over Norris and the §102 rejection should be withdrawn.

Claims 4-5 and 8-14 are also allowable over Norris for one or more of the reasons that claims 3 and 6-7 are allowable as described above, and the §102 rejection should be withdrawn.

Claim 18 recites "an object having a multi-valued attribute that includes a value which is a reference link to multiple linked values, each linked value having indicators to indicate a change to a corresponding linked value". Norris does not show or disclose an object having a multi-valued attribute that includes a value which is a reference link to multiple linked values, as recited in claim 18. Norris

also does not show or disclose each linked value having indicators to indicate a change to a corresponding linked value, as recited in claim 18.

As described above in the response to the rejection of claim 1, Norris does not show any such indicators corresponding to an individual linked value. Further, there is no indication in Norris that a value of an object attribute is a reference link to multiple linked values. For example, see Applicant's Fig. 4 in which an object (314) has a "Members" (334) attribute which includes a reference link (336) to multiple linked values (342), each of which have indicators (346) to indicate a change to a linked value.

The Office simply lists the elements of claim 18 and states that Norris teaches the elements in Norris Fig. 4-1 (p.68) (Office Action p.9). However, Norris Fig. 4-1 does not show an object having a multi-valued attribute that includes a value which is a reference link to multiple linked values, and does not show each linked value having indicators to indicate a change to a corresponding linked value, as recited in claim 18.

Accordingly, claim 18 is allowable over Norris for at least these reasons and the §102 rejection should be withdrawn.

Claims 19-24 are allowable by virtue of their dependency upon claim 18. Additionally, some or all of claims 19-24 are allowable over Norris for independent reasons. For example:

Claim 20 recites "a version indicator that corresponds to a version of a linked value";

Claim 21 recites "an update indicator that corresponds to when a linked value is changed";

Claim 22 recites "a creation indicator that corresponds to when a linked value is created";

Claim 23 recites "an update timestamp that corresponds to when the linked value is changed"; and

Claim 24 recites "a creation timestamp that corresponds to when a linked value is created, ..., and an update timestamp that corresponds to when the linked value is changed".

As described above in the response to the rejection of claims 3 and 6-7, Norris does not show or disclose any such indicators (e.g., update indicator, creation indicator, update timestamp, and creation timestamp) that correspond to when a linked value (e.g., one of multiple linked values of an object attribute) is created and/or changed. Accordingly, claims 20-24 are allowable over Norris and the §102 rejection should be withdrawn.

Claim 27 recites a "data structure having a multi-valued attribute that includes a reference link to multiple linked values, each linked value having conflict-resolution information to indicate a change to a corresponding linked value of the attribute". Norris does not show or disclose a multi-valued attribute that includes a reference link to multiple linked values, as recited in claim 27. Norris also does not show or disclose each linked value having conflict-resolution information to indicate a change to a corresponding linked value, as recited in claim 27.

As described above in the response to the rejection of claim 18, Norris does not show conflict-resolution information corresponding to an individual linked value. Further, there is no indication in Norris that an attribute includes a reference link to multiple linked values. For example, see Applicant's Fig. 4 in which an object (314) has a "Members" (334) attribute which includes a reference link (336) to multiple linked values (342).

The Office simply restates Applicant's claim and states that Norris teaches the elements in Norris Fig. 4-1 (p.68) (Office Action p.10). However, Norris Fig. 4-1 does not show a data structure having a multi-valued attribute that includes a reference link to multiple linked values, and does not show each linked value having conflict-resolution information, as recited in claim 27.

Accordingly, claim 27 is allowable over Norris for at least these reasons and the §102 rejection should be withdrawn.

Claim 27 also recites that a replication conflict between linked values in first and second data structures is resolved with the conflict-resolution information associated with the linked values. Norris does not show or disclose a replication conflict resolved with conflict-resolution data of individual linked values, as recited in claim 27. Norris specifically states that a replication conflict is resolved by looking at the version numbers of two *properties*, and whichever *property* has the higher version number wins the conflict (*Norris* p.77, ¶3).

The Office cites to Norris p.77 for teaching a replication conflict being resolved with conflict-resolution data of individual linked values. However, there is no indication in Norris of a replication conflict resolved with conflict-resolution

data of individual values, as recited in claim 27. Further, without a better indication as to the basis for the rejection, Applicant respectfully submits that the Office has not provided a *prima facie* rejection of this feature recited in claim 27.

Accordingly, claim 27 is also allowable over Norris for at least these additional reasons and the §102 rejection should be withdrawn.

Claims 28-36 are allowable by virtue of their dependency upon claim 27. Additionally, some or all of claims 28-36 are allowable over Norris for independent reasons. For example, claims 29-36 are also allowable over Norris for one or more of the reasons that claims 3, 6-7, and 20-24 are allowable as described above, and the §102 rejection should be withdrawn.

Claim 39 recites a computer-readable medium having stored thereon a first data structure and a second data structure comprising "a first data field of the first data structure containing an attribute", and "a second data field of the first data structure containing a value of the attribute contained in the first data field, the value being a reference link to multiple linked values contained in the second data structure". As described above in the response to the rejections of claims 18 and 27, there is no indication in Norris that an attribute value is a reference link to multiple linked values. For example, see Applicant's Fig. 4 in which an object (314) has a "Members" (334) attribute which includes a reference link (336) to multiple linked values (342).

The Office simply restates Applicant's claim and states that Norris teaches the elements in Norris Fig. 4-1 (p.68) (Office Action p.15). However, Norris

Fig. 4-1 does not show the features of claim 39. Accordingly, claim 39 along with dependent claim 40 is allowable over Norris and the §102 rejection should be withdrawn.

Claim 42 recites "an object having a multi-valued attribute that includes a value which is a reference link to multiple linked values", "a second object having the multi-valued attribute that includes the reference link to the multiple linked values, each linked value configured to have conflict-resolution data", and a computer to "resolve a replication conflict between the object and the second object at the attribute value level with the conflict-resolution data associated with a linked value."

As described above in the response to the rejections of claims 18 and 27, there is no indication in Norris that a value of a multi-valued attribute is a reference link to multiple linked values, as recited in claim 42. Further, as described above in the response to the rejections of claims 1 and 27, Norris does not show or disclose a replication conflict resolved with conflict-resolution data that is associated with a linked value, as recited in claim 42.

The Office simply restates Applicant's claim and states that Norris teaches the elements in Norris Fig. 4-1 (p.68), and cites to Norris p.77 for teaching a replication conflict being resolved with conflict-resolution data associated with a linked value (Office Action p.16). However, there is no indication in Norris of a replication conflict resolved with conflict-resolution data of individual values, as recited in claim 42, and Norris Fig. 4-1 does not provide a basis to reject claim 42.

Accordingly, claim 42 along with dependent claims 43-54 are allowable over Norris and the §102 rejection should be withdrawn.

Claim 55 recites "the object and the replica object each having an attribute comprised of multiple linked values, the multiple linked values each having conflict-resolution data", and "resolving the replication conflict with the conflict-resolution data associated with the individual linked values."

As described above in the response to the rejection of claim 1, Norris Fig. 4-1 does not show or disclose multiple linked values of an attribute where the linked values themselves have conflict-resolution data, as recited in claim 55. To the contrary, Norris describes objects which are structured as object: properties: value(s), where the values of a property can include a version number and a timestamp. A version number and timestamp shown in Norris Fig. 4-1 corresponds to a particular property of an object, and a version number or timestamp is itself a value of the particular property.

Norris does not show or disclose a replication conflict resolved with conflict-resolution data associated with the individual linked values, as recited in claim 55. Norris specifically states that a conflict is resolved by looking at the version numbers of two *properties*, and whichever *property* has the higher version number wins the conflict (*Norris* p.77, ¶3). As in the rejection of claim 1, the Office cites to Norris p.77, 3rd paragraph for teaching "resolving the replication conflict with the conflict-resolution data associated with the individual linked values" (*Office Action* p.19). However, the cited section of Norris only describes conflict resolution if an object is moved under a deleted parent. There is no

indication in Norris of a replication conflict resolved with conflict-resolution data associated with the individual linked values, as recited in claim 55. Further, Applicant respectfully submits that the Office has not provided a *prima facie* rejection of this feature recited in claim 55.

Accordingly, claim 55 is allowable over Norris for at least these reasons and the §102 rejection should be withdrawn.

Claims 56-67 and 72 are allowable by virtue of their dependency upon claim 55 (either directly or indirectly). Additionally, some or all claims 56-67 and 72 are allowable over Norris for independent reasons. For example, claims 56-63 and 65-66 are also allowable over Norris for one or more of the reasons that claims 3, 6-7, and 20-24 are allowable as described above, and the §102 rejection should be withdrawn.

Claim 73 recites a "method for replicating a linked value of a multi-valued attribute contained in an object, the linked value having conflict-resolution information and replicated from a replica object having the multi-valued attribute and the linked value", and "identifying a replication conflict with the conflict resolution information associated with the linked values". As described above in the response to the rejection of claims 1 and 27, Norris does not show or disclose an object having a multi-valued attribute which includes a linked value, or a linked value having associated conflict-resolution information", as described in claim 73. Accordingly, claim 73 is allowable over Norris and the §102 rejection should be withdrawn.

Claims 74-80 are allowable by virtue of their dependency upon claim 73 (either directly or indirectly). Additionally, some or all of claims 74-80 are allowable over Norris for independent reasons. For example, claims 74-78 are also allowable over Norris for one or more of the reasons that claims 3, 6-7, and 20-24 are allowable as described above, and the §102 rejection should be withdrawn.

Claim 81 recites a method comprising "replicating a first object with a second object, the first object having an attribute that includes a value which is a reference link to multiple linked values, the second object having an attribute that includes a value which is the reference link to the multiple linked values, each linked value configured to have associated conflict-resolution data", and "resolving second a replication conflict between the first object and the second object at an attribute value level with the conflict-resolution data associated with the multiple linked values."

As described above in the response to the rejections of claims 18 and 27, there is no indication in Norris that an attribute value is a reference link to multiple linked values. The Office simply restates Applicant's claim and states that Norris teaches the elements in Norris Fig. 4-1 (p.68) (Office Action p.25). However, Norris Fig. 4-1 does not show the features of claim 81. Accordingly, claim 81 along with dependent claims 82-86 are allowable over Norris and the §102 rejection should be withdrawn.

35 U.S.C. §103 Claim Rejections

Claims 15-17, 25-26, 37-38, 41, and 68-71 are rejected under 35 U.S.C. §103(a) for obviousness over Norris in view of U.S. Patent No. 6,295,541 to Bodnar et al. (hereinafter, "Bodnar") (*Office Action* p.26). Applicant respectfully traverses the rejection.

Claims 15-17 are allowable by virtue of their dependency upon claim 1 which is allowable over Norris for at least the reasons described above in response to the §102 rejection of claim 1. Claims 15-17 are also allowable over the Norris-Bodnar combination because Bodnar does not address the deficiencies of Norris as described above in the response to the rejection of claim 1.

Claims 25-26 are allowable by virtue of their dependency upon claim 18 which is allowable over Norris for at least the reasons described above in response to the §102 rejection of claim 18. Claims 25-26 are also allowable over the Norris-Bodnar combination because Bodnar does not address the deficiencies of Norris as described above in the response to the rejection of claim 18.

Claims 37-38 are allowable by virtue of their dependency upon claim 27 which is allowable over Norris for at least the reasons described above in response to the §102 rejection of claim 27. Claims 37-38 are also allowable over the Norris-Bodnar combination because Bodnar does not address the deficiencies of Norris as described above in the response to the rejection of claim 27.

Claim 41 is allowable by virtue of its dependency upon claim 39 which is allowable over Norris for at least the reasons described above in response to the §102 rejection of claim 39. Claim 41 is also allowable over the Norris-Bodnar

combination because Bodnar does not address the deficiencies of Norris as described above in the response to the rejection of claim 39.
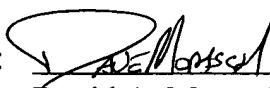
Claims 68-71 are allowable by virtue of their dependency upon claim 1 which is allowable over Norris for at least the reasons described above in response to the §102 rejection of claim 55. Claims 68-71 are also allowable over the Norris-Bodnar combination because Bodnar does not address the deficiencies of Norris as described above in the response to the rejection of claim 55.

Conclusion

Pending claims 1-86 are in condition for allowance. Applicant respectfully requests reconsideration and issuance of the subject application. If any issues remain that preclude issuance of this application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

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